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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/612,418	07/07/2000	Raymond P. Johnston	54971USA3A.006	8574

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EXAMINER

MORAN, MARJORIE A

ART UNIT PAPER NUMBER

1631

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/612,418	JOHNSTON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marjorie A. Moran	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19, 39-46, 49, 50, 53, 54, 60, 61, 72-75, 77 and 81-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 39-46, 49, 50, 53, 54, 60, 61, 72-75, 77 and 81-85 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/11/06</u> | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/26/06 has been entered.

All rejections and objections not reiterated below are hereby withdrawn in view of the amendment filed 4/26/06. An action on the merits of pending claims 1-19, 13, 39-46, 49-50, 53-54, 60-61, 72-75, 77, and 81-85 follows.

***Information Disclosure Statement***

The information disclosure statement filed 5/11/06 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the IDS fails to cite a date and place of **publication**, as required under 37 CFR 1.98 (2) (b) (5). It is recognized that papers filed in WO and EPO applications are publicly available on the EPO website, thus the website itself may be considered a "place of publication" and the dates indicated thereon are considered "dates of publication." However, and with regard to the first two citations, the examiner attempted to find the "original" publications (i.e. those from which the translations were made) on the EPO website, and could not find any Letters or other papers listed in the indicated applications corresponding to the "filing dates" cited on the instant IDS. With regard to the last citation, no application number

or other identifying information is cited on the IDS. It has been placed in the application file, but the information referred to therein has not been considered as to the merits.

Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

### ***Claim Rejections - 35 USC § 112***

Claims 1-19, 13, 39-46, 49-50, 53-54, 60-61, 72-75, 77, and 81-85 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Amended claim 1 limits microchannels to be “uniform and regular” along substantially each channel length. This limitation is supported by the specification on page 11, as indicated by applicants, but is not specifically defined or exemplified anywhere. Merriam-Webster defines “uniform” to mean “presenting an unvaried appearance of surface, pattern or color” and “having always the same form, manner, or degree; not varying or variable.” Thus, one skilled in the art would generally accept that a “uniform” channel is one which does not vary in pattern along its length, yet the specification on page 13 discloses that sidewalls may be shortened in some areas and page 14 discloses that channels may have varying cross-sectional widths. Page 15

discloses that where a channel does comprise "subchannels", the DEPTH should be uniform. Page 16 discloses that channels may have apertures and/or notches whereby they connect to other portions of the fluid control film. A channel with random apertures or notches is clearly not "uniform" in pattern. Merriam-Webster defines "uniform" to mean (among many other options) "formed...according to some established ...type" or "both equilateral and equiangular." It is unclear which, if either, of these are the definition intended by applicant, as no "rule" for forming channels is disclosed, and the channels are disclosed to be of varying side heights and widths, as set forth above. While it is recognized that the various disclosures pointed to above may be merely alternate embodiments of the invention, as there is no clear definition of what APPLICANT considers a "uniform and regular" microchannel to be, the various disclosures render it confusing as to WHAT about the microchannels is intended to be "regular and uniform." For these reasons, claim 1 and all its dependent claims are indefinite.

Claims 2 and 3 limit microchannels to comprise sidewalls which extend through acquisition and detection zones. Parent claim 1 limits the detection zone to comprise a detection element, therefore, the acquisition and detection zones are necessarily different in composition. A microchannel which includes (along its length) areas or zones which are necessarily different is clearly NOT one which is "regular and uniform: along its entire length, thus it is unclear what combination of limitations is actually intended in claims 2 and 3.

Claim 13 recites the term “improve” which is a term of degree. As one skilled in the art would not be apprised of what the surface energy is to be “improved” relative to, nor how much “better” a surface energy must be to be considered “improved,” claim 13 is indefinite.

### ***Conclusion***

No claims are allowed.

The prior art made of record and not relied upon which is considered pertinent to applicant's disclosure is RAHBAR-DELGHAN (US 6,587,197). RAHBAR-DELGHAN teaches a detection element comprising regular and uniform microchannels sized to facilitate fluid flow through the channels for detection of a characteristic of a fluid sample (abstract). However, as RAHBAR-DELGHAN also clearly teaches that the flow must be “power-assisted” (claims), the channels are not interpreted to be those in which fluid flows by “spontaneous fluid transport” from an acquisition zone (uptake side) to a detection zone (interior of channel).

The prior art of ALAJOKI et al. (US 6,416,642, previously of record) does not specifically teach that his microchannels are “uniform and regular” along their lengths.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marjorie A. Moran whose telephone number is (571) 272-0720. The examiner can normally be reached on Monday-Friday; 6 am-2:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571)272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marjorie A. Moran  
Primary Examiner  
Art Unit 1631

*Marjorie A. Moran*  
7/8/06